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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/042,357      | 01/11/2002  | Beng S. Ong          | D/A1656             | 6796             |

7590 04/02/2004

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| EXAMINER |
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TRUONG, DUC

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| ART UNIT | PAPER NUMBER |
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1711

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/042,357             | ONG ET AL.          |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Duc Truong             | 1711                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 3/22/04
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>0325</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

The last office action is hereby withdrawn in view of Applicant's arguments. However, a new ground of rejection is cited herein based on the IDS submitted on

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2—33 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0402269 of record on 1449.

The reference discloses polythiophenes of the general formulas (figures IA, IB, IC , and IE) with so many variations on page 5.

Note that the reference further discloses the formula I , which can be read on the formula of claim2 and claim 21.

The reference further discloses processes to form the products of the claimed formulas (see example 1, claims 1,2, 4-6).

The disclosure of the reference differs from the instant claims in that it does not disclose all of the claimed formulas and the use of specific catalyst in claim 29.

However, it does disclose the broad formulas with so many variations, and the use of ferric chloride in example 1, corresponding to this in claim 28.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the variations of the formulas from the reference within the limitations of the instant claims since they have been shown to be effective in a similar system and thus would have

Art Unit: 1711

been expected to provide adequate results. There is no showing of unexpected results derived from said use.

Claims 2-4 rejected under 35 U.S.C. 103(a) as being unpatentable over WO 9415368 or SATO or VAN HUTTEN, they are of record on 1449.

WO 9415368 discloses block copolymer of polythiophenes and derivatives (see claims 10-20; figure 7, examples , page 10, line 17, page 11, line 33.

SATO discloses the preparation of long alkyl-substituted oligothiophenes, see formulae 1-4.

VAN HUTTEN discloses the structure of thiophene based regioregular polymers and block copolymers and its influence of luminescence spectra, see figure 3.

The disclosures of the references differ from the instant claims in that they do not disclose all of the claimed formulae. However, they do disclose specific formulae which are included in the broad teachings of the claims. Therefore, it would have been obvious to one of ordinary skill in the art to modify the formulae and the variations from its formulae within the limitations of the instant claims to get the polythiophenes of the claimed formulae in the absence of a showing of unexpected results derived from said use.

Claims 5,7,9-12,19,20,29 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5 and 11 recite the limitation "m" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim s 7,9,10,19,20 and 33 recite the limitation "A" in line 2. There is insufficient antecedent basis for this limitation in the claim.

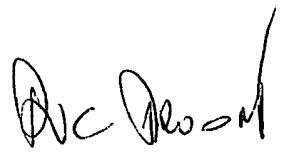
Claim 12 recites the limitation "x,y,z" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 29 recites the limitation "IIIb" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Truong whose telephone number is 571-272-1081. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DUCTRUONG  
PRIMARY EXAMINER